

UC Berkeley Heavy Ion Group



request to join sPHENIX



*Barbara Jacak
UC Berkeley/ LBNL
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Who we are

- Professor Barbara Jacak (also at LBNL)
- 2 postdocs
Miguel Arratia (UCB), Yue Shi Lai (officially at LBNL)
- 4 Ph.D. students
Joanna Szornel, Fernando Torales-Acosta, Dhruv Dixit, Alwina Liu
- 3-4 Undergrads
Currently Ivan Velkovsky, Winston DeGraw, Jackson Van Dyke



Research program in the ALICE Collaboration

- Analysis of gamma-hadron correlations (led by Lai)
Calibration of EMCAL, photon ID development,...
- Participate in construction of ITS upgrade with LBNL
Main activity for Arratia, Szornel, and Torales-Acosta
- Conceptual design of EIC forward tracker (Velkovsky, Jacak

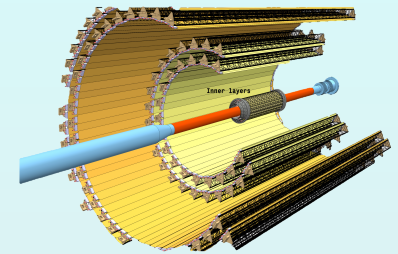
We collaborate closely with RNC group

- ITS upgrade construction

Beam tests of ALPIDE sensor prototypes at 88" cyclotron

Power distribution board design and testing

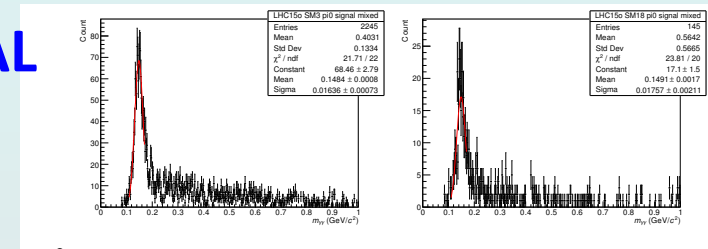
Will soon be testing sensor modules and staves



- Analysis activities

Optimize EMCAL + DCAL for physics in Run-2

Direct photon measurement in EMCAL

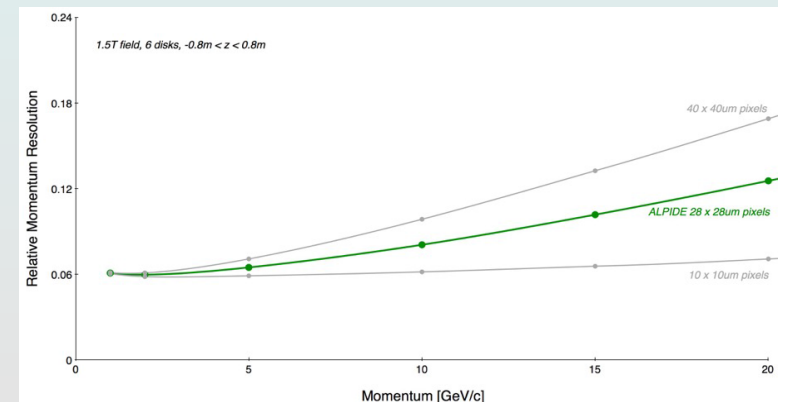


- EIC detector conceptual design

And developing the physics case

... probe properties of cold, dense
gluonic matter

Evolution of sPHENIX to ePHENIX



Interests in sPHENIX

● Physics

Temperature dependence of plasma-parton interactions

Currently looking at energy deposition and medium response at both RHIC and LHC

sPHENIX and ALICE ITS will allow study of b quark energy loss (and flow?) at both RHIC and LHC

● Hardware

Collaborate with LBNL RNC group to apply knowledge from ALICE ITS upgrade to sPHENIX MAPS tracker

Stave assembly & testing activities, monitoring, software are obvious candidates for us, but we will collaborate in other work as manpower & ALICE commitments allow

● Computing?

CORI at NERSC an interesting resource for the future

Big data at HPC facility

